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First record of the crawling medusa *Eleutheria dichotoma* from Victoria

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Abstract
This is the first record of the crawling hydrozoan medusa *Eleutheria dichotoma* from the plankton at Queenscliff, Victoria. The species was recorded in 2006 from coastal, intertidal habitat in New South Wales. (*The Victorian Naturalist* **132** (2) 2015, 48–50)

Keywords: crawling medusa, *Eleutheria dichotoma*, hydrozoan medusa, Queenscliff

Introduction

Two specimens of a marine hydromedusa were recovered from plankton tows in the Fishermens Cut, Queenscliff, Victoria in May 2014. The specimens were identified as the crawling medusa, *Eleutheria dichotoma*, which is one of a small group of hydrozoan medusae that crawls on algae rather than swimming in the plankton. The Queenscliff specimens were photographed in the laboratory under a Leica MZ12 stereomicroscope, using a (Point Grey) digital camera. The medusae survived for 10 days in the laboratory before disintegrating.

Systematics

Family Cladonematidae Gegenbauer, 1857
Genus *Eleutheria* Quatrefages, 1842
Eleutheria dichotoma Quatrefages, 1842
Figs. 1 and 2.
Bouillon *et al.* 2004: 89, Fig. 48G-H. - Fraser *et al.* 2006: 699, Fig. 2A-H. - Schuchert 2006: 381, Fig. 19A-C.

Diagnosis

Hydroid: stolonal, hydranth 1–6 mm high, with very short pedicel, perisarc smooth. Hydranth almost cylindrical, with an oral whorl of four to eight capitate tentacles. Medusa buds borne low on hydranth. *Medusa*: width 4–5 mm across extended tentacles, umbrella flattened hemispherical, oral surface more or less six-sided with thickened marginal ring packed with nematocysts. Velum broad and almost closed, opening only when feeding. Manubrium broad, filling most of subumbrella cavity, mouth simple. Usually six radial canals, gonads on manubrium. Tentacles usually five to six, bifurcated about middle, upper branch with terminal nematocyst cluster, lower branch terminating in an adhesive pad armed with stenotele and desmoneme nematocysts. An ocellus at base of each tentacle. Secondary medusae budding from bell margin.

Remarks

Microscopic examination and digital images of the Queenscliff specimens confirmed them as *Eleutheria dichotoma*. As the specimens did not survive there is no voucher material. Further plankton tows produced no other specimens.

One medusa had eight tentacles, a reddish ocellus at the base of each tentacle and a new tentacle growing from the side of the bell (Fig. 1). A second specimen had 12 tentacles; although not visible in the image, ocelli were present in the living specimen (Fig. 2).

The intertidal and shallow water cosmopolitan green alga, *Ulva lactuca*, is the favoured habitat of *Eleutheria dichotoma* (Fraser *et al.* 2006 and pers. obs.); this alga is common in the Queenscliff Boat Harbour and adjacent Swan Bay. The species is well known from the northern hemisphere where it has been recorded from depths to 20 m in the Mediterranean Sea (Brinkmann-Voss 1970). The small hydranth is seldom found in nature and is known mostly from aquarium studies. The medusa is easily identified by the dichotomously branched tentacles with terminal pads of nematocysts.

The medusa was recently recorded for the first time in the southern hemisphere on intertidal platforms from Bateau Bay to Pebbly Beach on the central-southern New South Wales (NSW) coast. It was abundant on *Ulva*, the brown alga *Sargassum* and corallines, with population densities averaging 52 individuals/10 cm^2 of substrate (Fraser *et al.* 2006). Molecular analysis of the NSW specimens showed a close relationship with *E. dichotoma* from the Mediterranean Sea, differing by as little as 0.4% (Fraser *et al.* 2006).

Although both Queenscliff specimens possessed more tentacles than reported for some European and NSW medusae the number is considered variable and not diagnostic of the

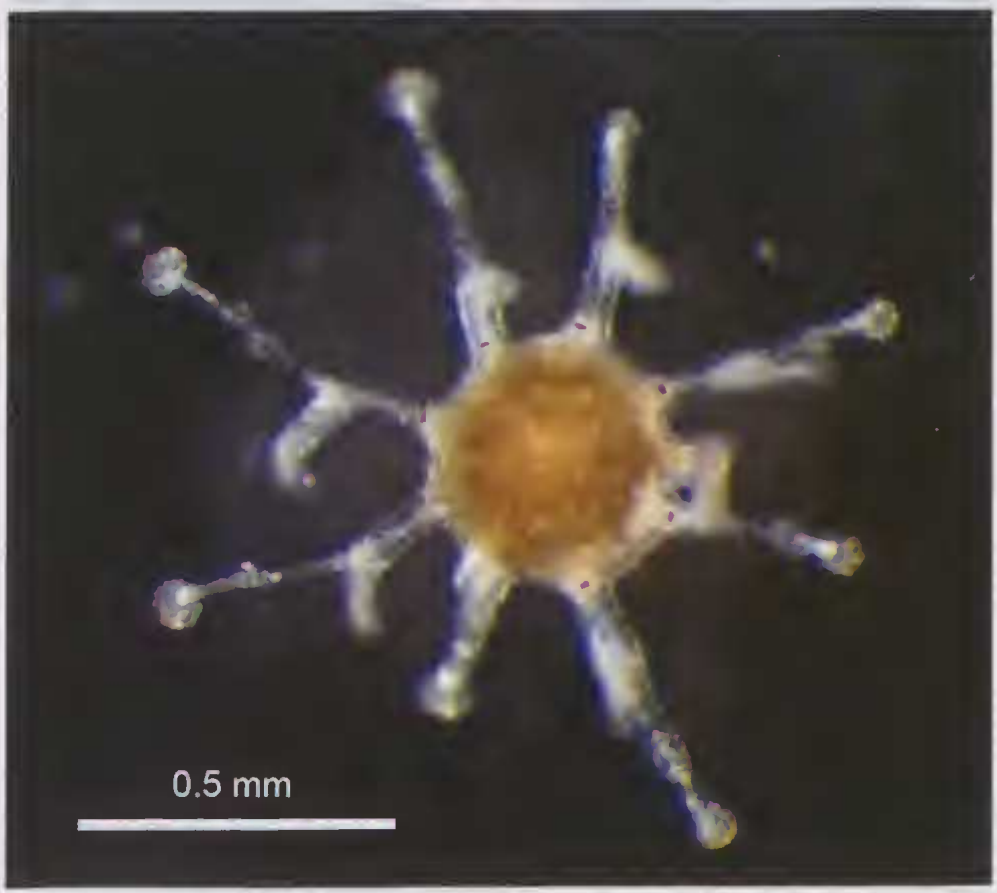

Fig. 1. *Eleutheria dichotoma* with eight bifurcate tentacles, with terminal nematocyst clusters, one tentacle bud (right hand side) and a red ocellum at base of each tentacle; bell diameter is 0.38 mm.

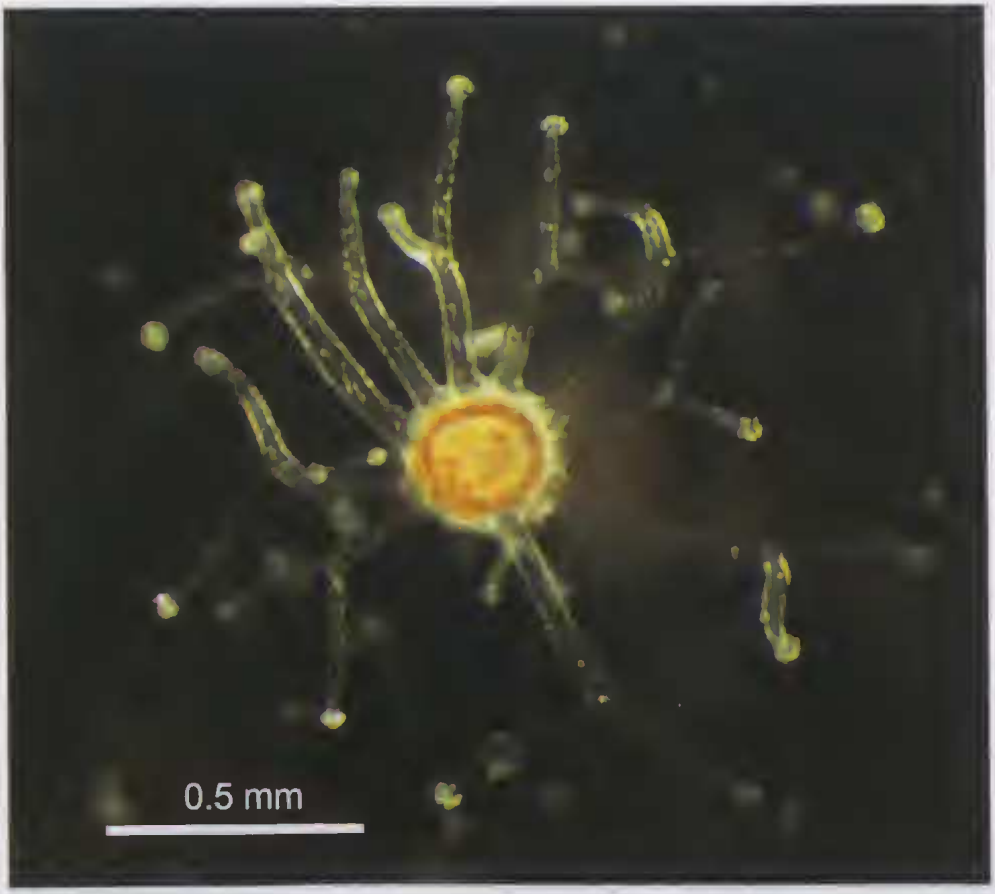

Fig. 2. *Eleutheria dichotoma* with 12 bifurcate tentacles (10 tentacles are shown, 2 others are folded out of the focal plane); bell diameter is 0.3 mm.

species (see Schuchert 2006; Brinckmann-Voss, pers. comm.). The actual number of tentacles is probably determined by ecological factors. As Briggs (1920, 1931) made no mention of *E. dichotoma* in his extensive studies of crawling medusae from NSW and Watson and McInnes (1999) did not find it among intertidal algae from Black Rock in Port Phillip, it is likely to have been introduced to southern Australia over past decades, probably in ships' ballast water.

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